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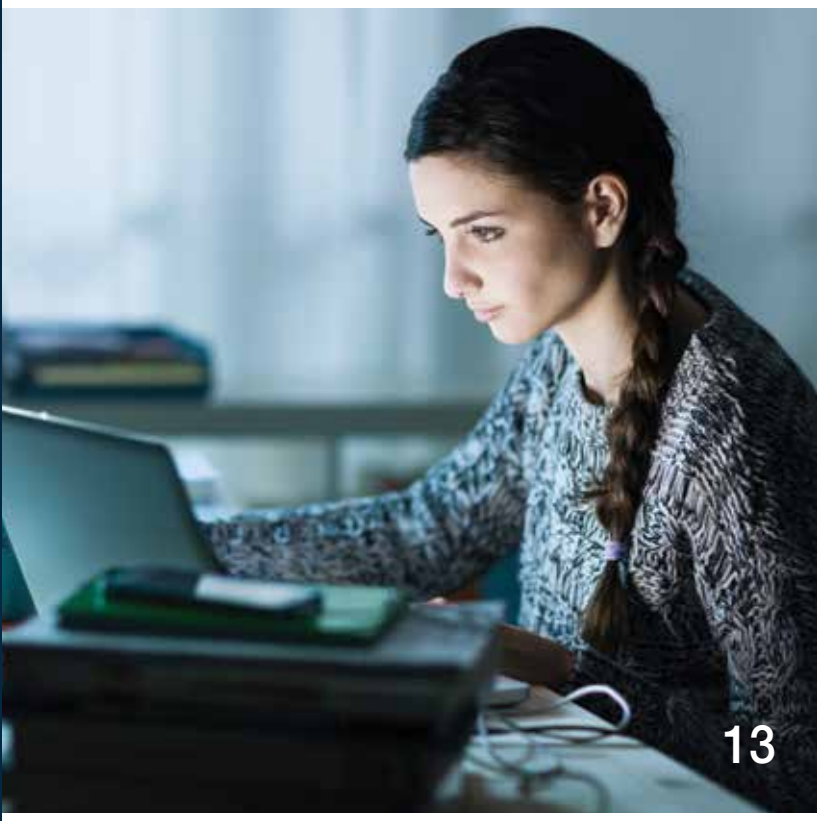

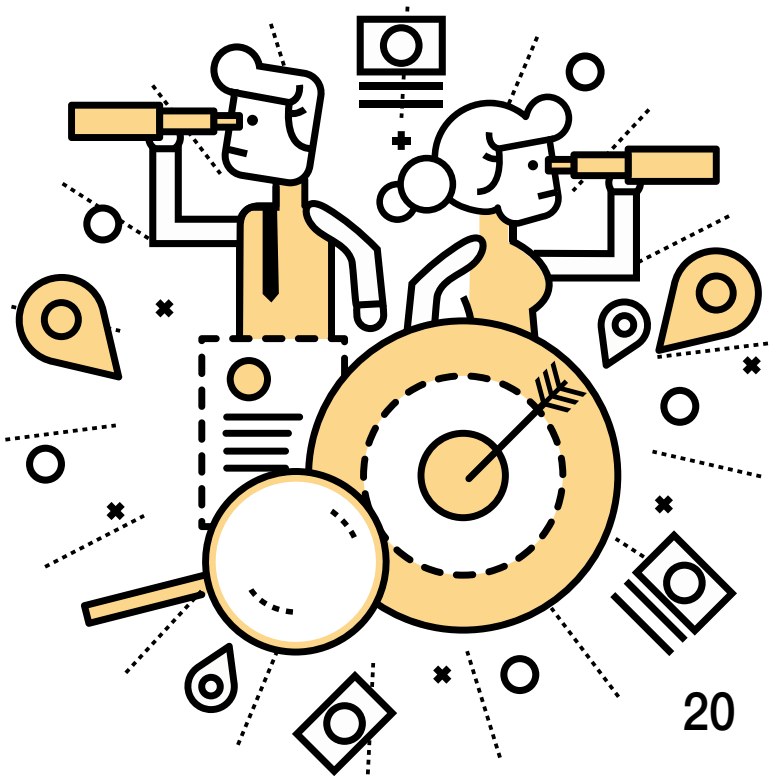

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A Note from the Editor

YOUR AUDIENCE, USERS, readers, consumers, customers, clients, regardless of what you and your company call them, we would be unnecessary without them. They are the source of the revenue that our companies generate.

Given how important our audiences are, doesn't it make sense that we:

- Understand as much about them and their needs as possible;
- Deliver the most valuable content to them; and
- Ensure their wild success with our companies' products and services?

Delivering value and ensuring the audience's success is entirely dependent on our ability to understand them and their needs. And that's what this issue is all about!

To start us off, Yoel Strimling, Senior Technical Editor at CEVA Inc., gives us a peek inside the minds of some users who provided him with insights about what's most important to them in documentation. He uses that research and delves into a data quality model to determine whether that model addresses the key concerns of users and can be used to improve documentation quality.

Next up, Joe Devney, a linguistic consultant, shows us how we can use the maxims of conversational cooperation to ensure that our content is hitting the mark with our users. And he even reveals a bit about what makes our everyday conversations work!

Kumar Dhanagopal, Consulting User Assistance Developer at Oracle America, provides his evaluation of various tools that can help us gain valuable insights into our audience, giving you a ranked toolbox to apply in your next project.

Danielle Brighton, newly minted Master's degree holder, discusses ways in which we can help our users to engage with our products and services beyond simply using them "correctly," creating manuals that disrupt and provide new levels of value to users who need that level of information.

Finally, William Hart, PhD student at Fielding Graduate University, explores various dimensions of gender bias and how we can avoid it—not just for users, but also for position descriptions in order to attract diverse job candidates.

We also have four columns for you in this issue:

- Thomas Barker discusses the tricky work of understanding audiences in risk communication.
- Michelle Corbin reminds us that everything we do, and every decision we make, depends on our users.
- Cindy Currie and Kit Brown-Hoekstra dispense invaluable management advice for those seeking a new role in management and for those who need to push back on a manager.
- Jeanette Evans and Charles Dull discuss trust in technology and give us a bonus ride through the land of blockchain.

The feature authors, columnists, and I would love to hear from you! We provide our email addresses so that you can get in touch. We would also love to discuss any articles with you online. You can comment on the Web version of any article. Start or join a conversation! I'll be looking for you!

Until then, enjoy the issue!

Andrea Ames

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intercom

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So You Think You Know What Your Readers Want?

By YOEL STRIMLING | *STC Senior Member*

AS TECHNICAL COMMUNICATORS, we put a lot of time and effort into creating the highest-quality documentation that we can. We write because we want to help our readers do the tasks they need to do or understand the concepts they need to know.

Because we are professionals, we take pride in our work and want it to be the best it can be. But how do we know if what we are writing is what our readers want? How do we know that the information we are sharing with our audience is helping them do or know what they need? We might be writing documentation with one standard in mind and be satisfied with it, yet our readers might look at the same documentation and be very unsatisfied. A disconnect between what we are producing and what our readers actually want makes it very difficult to justify writing documentation at all—why write information that nobody wants?

The best way to align ourselves with our audience's needs is to get direct, meaningful, and actionable feedback from them, but this is not always possible. Instead, we often end up relying on our "gut instincts" and assume that readers define high-quality documentation in the same way that we do. In lieu of feedback, what we need is a proven model of how readers actually define documentation quality (DQ), which we can then use to ensure that what we produce is useful to our audience.

Defining Documentation Quality (DQ)

To properly define DQ, we must meet the following criteria:

- **The definition must be from the reader's point of view**. Because it is our readers who determine whether the document we give them is high quality, any definition of DQ must come from the readers' perspective. Writers can come up with any number of quality attributes that they think are important, but at the end of the day, nothing is as important as what the readers think.
- **The definition must be clear and unequivocal**. Both readers and writers have to be on the same page when it comes to defining what makes a document high quality. Misunderstandings of what readers actually want from the documentation are a recipe for unhappy readers.
- **The definition must cover all possible aspects of quality**. "Quality" is a multidimensional concept, and we must be sure that any attempt to define it is as comprehensive as possible. A definition that emphasizes one dimension over another, or leaves one out altogether, cannot be considered to be a usable definition.
- **The definition must have solid empirical backing**. To be considered a valid definition of DQ, serious research must be done to give it the proper theoretical underpinnings. Years of experience or anecdotal evidence can act as a starting point, but if we are serious about our professionalism and our documentation, we need more.

Building a Comprehensive Definition of DQ

To meet all of these DQ criteria, I turned to a fascinating study done in 1996 by Drs. Richard Wang (Co-Director of the MIT Total Data Quality Management Program) and Diane Strong (Director of the Management Information Systems Program at the Worcester Polytechnic Institute).

They developed a "comprehensive, hierarchical framework of data quality attributes" that were important to what they called "data consumers." Their underlying assumption was that, to improve data quality, they needed to understand what "data quality" meant to data consumers—data quality cannot be approached intuitively or theoretically, because these approaches do not truly capture the voice of the data consumer. Their framework was made up of 15 quality dimensions, grouped into four quality categories: Intrinsic, Representational, Contextual, and Accessibility (see *Applying Wang & Strong's Model to Documentation* for a description of their model).

Based on these categories, Wang and Strong concluded that high-quality data must be:

- Intrinsically good;
- Clearly represented;
- Contextually appropriate for the task; and
- Accessible to the consumer.

Wang and Strong claim that their proposed data quality framework could be used as a basis for further studies that measure perceived data quality in specific work contexts. They state that the framework is methodologically sound, complete from the data consumers' perspective, and is useful for measuring, analyzing, and improving data quality. They cite "strong and convincing" anecdotal evidence that the framework has been used effectively in both industry and government and has helped information managers better understand their customers' needs by "identifying potential data deficiencies, operationalizing the measurement of these data deficiencies, and improving data quality along these measures."

Applying the Wang and Strong Data Quality Framework to DQ

Can we apply Wang and Strong's data quality framework to documentation quality as well?

On the surface, it seems that Wang and Strong's data quality framework is a good fit for our purposes. Like data quality, to understand DQ, we cannot rely on an intuitive or theoretical approach; we must get to the documentation consumers—that is, our readers. Like data quality, to improve DQ, we must understand what DQ really means to our readers. And, like data quality, high-quality documentation must be:

- Intrinsically good;
- Clearly represented;
- Contextually appropriate for the task; and
- Accessible to the reader.

But Wang and Strong's framework focuses on data quality. Are the terms "data" and "documentation" synonymous and interchangeable in this comparison of data quality and DQ?

Documentation Is Not Data

"Data" is abstract, raw, and meaningless without context. However, when data is organized in a logical way and given context that can be understood by someone or something, it becomes "information." In other words, *information is data in a meaningful form.*

While Wang and Strong's originally stated object is *data* quality, it would be more accurate to call it *information* quality (which is what Wang and others, in subsequent research, have started calling it). When data consumers are asked to rate characteristics of data that they use, it can no longer really be called "data," because it is now being given context by the consumer.

Documentation, then, is not data, but rather information that is intended to be used by readers in a particular context and for a particular reason.

Wang and Strong's assumptions about the need for an empirical approach to determine what information consumers want, and what high-quality information must be, are parallel to those we are making about DQ. Because their framework is really a framework for measuring information quality, and the documentation we send to our readers is used as information, there is a strong basis for attempting to use this framework to create a model for accurately measuring what our readers consider to be high-quality documentation.

Methods

Questionnaires

For this study, I developed two questionnaires:

- The questionnaire for writers asked them to rate the 15 dimensions from a reader's assumed point of view, called the Writers' Assumptions of Readers' Ratings (WARR) group.
- The questionnaire for readers asked them to rate the dimensions from their own point of view, called the Readers' Ratings (RR) group.

I posted the link to the writer questionnaire on numerous online technical communication forums and social media pages, and I sent the link to the reader questionnaire to several technical communicators and customer service personnel from various companies to send to their readers. I did this because I wanted to ensure that a broad, worldwide range of writers and readers from different fields answered the questionnaires, and that the people answering the questions were the people who actually created, read, and used the documentation.

Rating and Data Analysis

As in the Wang and Strong study, the participants provided their responses on a nine-point Likert scale, with 1 being "extremely important" and 9 being "not important at all." Even though this range is cumbersome, I used it to get a finer gradation between the weights. Fewer points on a scale can lead to a broader weight range; more points can show differences better, especially in a study like this one with a small sample size.

I calculated the mean weights of the responses; and the lower the weight, the more important the dimension. To decide which dimensions were the most important, I used a cutoff of < 2.00. This value was based on the ratings of the most important information quality attributes found by Wang and Strong in their study (in their case, the attributes of Accurate and Correct).

Finally, I compared the mean weights and standard deviations per dimension of the WARR and RR groups using a one-way ANOVA (run at *http://statpages.org/anova1sm.html*) to determine whether the differences in mean weights between the selected groups were significant.

Results

RR Mean Weight Rating Results

A total of 81 readers responded to the questionnaire, but only 80 of them rated all of the dimensions. Using a mean

weight cutoff of < 2.00, the following dimensions were determined to be the most important for readers:

- Accurate (1.80), from the Intrinsic quality category
- Easy to Understand (1.91), from the Representational quality category
- Relevant (1.96), from the Contextual quality category

WARR Mean Weight Rating Results

A total of 66 writers responded to the questionnaire, and all of them rated all of the dimensions. Using a mean weight cutoff of < 2.00, the following dimensions were assumed by writers to be the most important for readers:

- Relevant (1.65), from the Contextual quality category
- Accurate (1.77), from the Intrinsic quality category

Comparing the RR/WARR Groups

Comparing the differences between the mean weights for each dimension between groups enables us to determine if the differences between them are statistically significant. If the mean weights of a dimension are significantly different (in this study, $p < 0.05$) between two groups, then we can state with some certainty that the two groups consider the importance of that particular dimension differently.

Analyzing the comparison statistically, I found that there were some significant differences between how writers *assumed* readers would rate the IQ dimensions and how readers *actually* rated them:

- Writers think that the Secure IQ dimension is significantly less important to readers than it really is ($F = 19.9577$, $p < 0.0000$).
- Writers think that the Objective IQ dimension is significantly less important to readers than it really is ($F = 9.5802$, $p = 0.0024$).
- Writers think that the Consistent IQ dimension is significantly less important to readers than it really is ($F = 6.8994$, $p = 0.0095$).
- Writers think that the Valuable IQ dimension is significantly less important to readers than it really is ($F = 6.2277$, $p = 0.0137$).
- Writers thought that the Timely IQ dimension is significantly less important to readers than it really is ($F = 4.9567$, $p = 0.0275$).

Figure 1 shows a comparison of the mean weights between the RR and WARR groups; statistically significant differences are marked with a box.

Analysis

How Do Readers Define DQ?

The results of the RR group show that, above all, readers expect the documentation they get to be *accurate*, *easy to understand*, and *relevant*. Each of these dimensions represents one of the quality categories (Intrinsic, Representational, and Contextual, respectively). While this result might seem self-evident, it provides a strong empirical

Applying Wang and Strong's Model to Documentation

You can apply Wang and Strong's information quality categories and dimensions to documentation as follows:

Intrinsic Quality: The information in the documentation has quality in its own right. This category is made up of the following dimensions:

- **Accurate**: The information in the documentation is correct, reliable, and certified free of error.
- **Believable**: The information in the documentation is true, real, and credible.
- **Objective**: The information in the documentation is unbiased (unprejudiced) and impartial.
- **Reputable**: The information in the documentation is trusted or highly regarded in terms of its source or content.

Representational Quality: The information in the documentation is well represented. This category is made up of the following dimensions:

- **Concise**: The information in the documentation is compactly represented without being overwhelming (that is, it is brief in presentation, yet complete and to the point).
- **Consistent**: The information in the documentation is always presented in the same format and is compatible with previous data.
- **Easy to Understand**: The information in the documentation is clear, without ambiguity, and easily comprehended.
- **Interpretable**: The information in the documentation is in an appropriate language and units and the definitions are clear.

Contextual Quality: The information in the documentation is considered within the context of the task at hand. This category is made up of the following dimensions:

- **The Appropriate Amount**: The quantity or volume of the available information in the documentation is appropriate.
- **Complete**: The information in the documentation is of sufficient breadth, depth, and scope for the task at hand.
- **Relevant**: The information in the documentation is applicable and helpful for the task at hand.
- **Timely**: The age of the information in the documentation is appropriate for the task at hand.
- **Valuable**: The information in the documentation is beneficial and provides advantages from its use.

Accessibility Quality: The information in the documentation is easy to retrieve. This category is made up of the following dimensions:

- **Accessible**: The information in the documentation is available or easily and quickly retrievable.
- **Secure**: Access to the information in the documentation can be restricted, and hence, kept secure.

underpinning for the claim that DQ can be defined using a small, yet comprehensive, set of clear and unambiguous information quality dimensions.

How Do Writers Assume Readers Define DQ?

The results of the WARR group show that writers think that readers define DQ using only the Relevant and Accurate dimensions (from the Contextual and Intrinsic categories respectively). The Easy to Understand dimension (from the Representational quality category) barely misses the < 2.00 cutoff, but it is clear that it would have been counted had the sample size been larger.

This order is interesting, and might reflect writers' beliefs that readers do not consider the grammar, style, and clarity of the documentation to be that important. In truth, though, readers do understand the importance of these, and rate the Easy to Understand dimension second (after Accuracy). However, the differences between the groups for these three dimensions were not statistically significant.

Where Writers Get It Wrong

Of the five dimensions that had significant differences between their perceived importance by writers and their actual importance to readers (Secure, Objective, Consistent, Valuable, and Timely), only the Valuable dimension was rated highly by readers. Indeed, this dimension might have even made the < 2.00 cutoff had the sample size been larger.

It is important for us to look more carefully at this result. What are readers telling us when they say that they want the documentation to be "valuable"? Why are we significantly underestimating the importance of this to readers? And what can we do to address it?

Making Our Documentation Valuable

The wording of the Valuable dimension's definition gives us a clue: "The information in the documentation is *beneficial and provides advantages from its use.*" Compare this to the definition of the Relevant dimension (note that both of these dimensions are in the Contextual quality category): "The information in the documentation is *applicable and helpful for the task at hand.*"

Readers want the documentation we send them to be more than simply "applicable" and "helpful"—they want it to be "beneficial" and "provide advantages." They want to look at the information and understand that if they use it, it will improve their situation in some way.

If the information in the document is "applicable and helpful for the task at hand," then it helped readers do what they needed to do or know what they needed to know—no more, and no less. For example, the documented

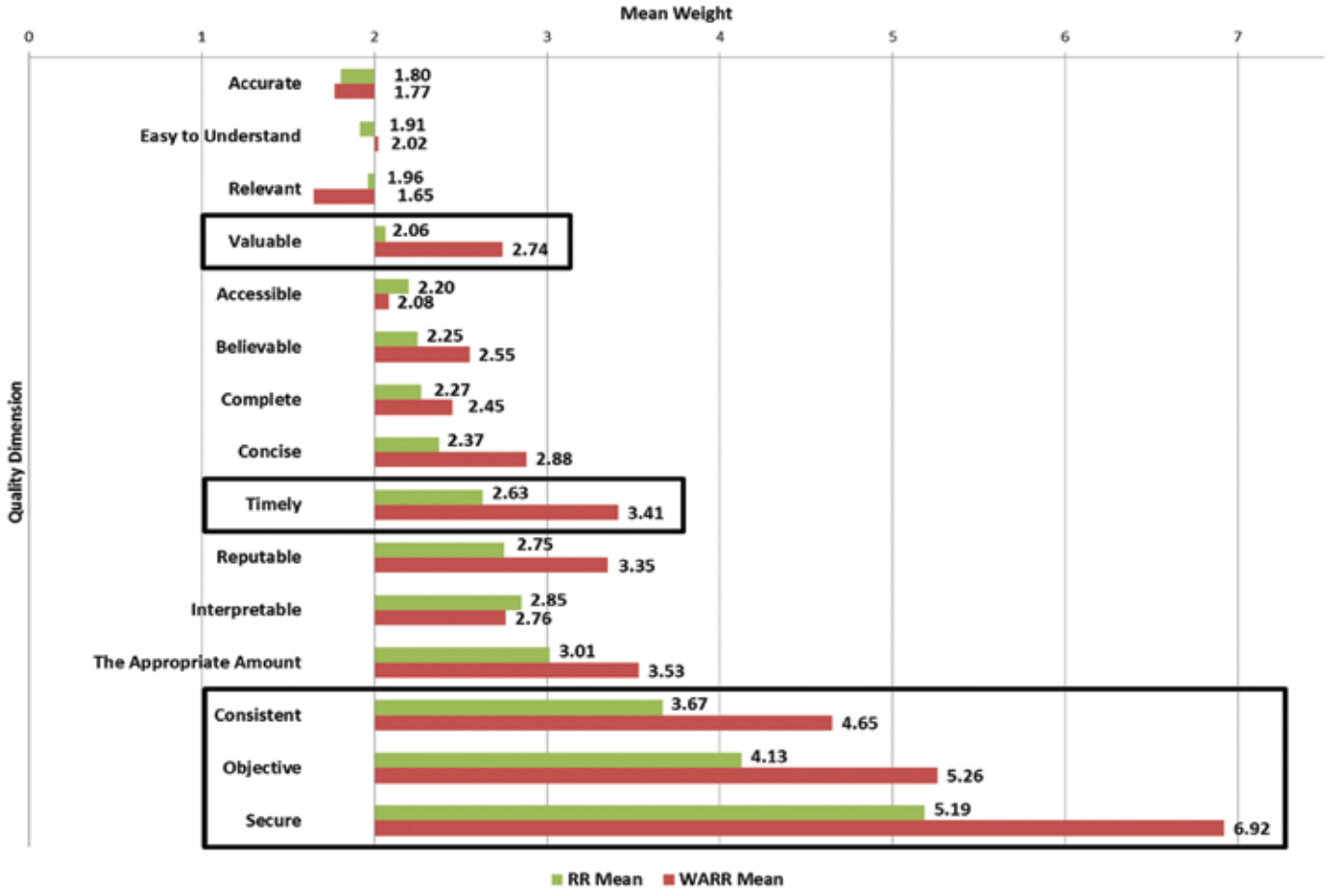

Figure 1. RR/WARR Mean Weight Comparison

procedure helped them set up a complicated system, told them how to manage network clusters, or explained the hardware architecture.

On the other hand, if the information in the document is "beneficial and provides advantages from its use," then it was more than just relevant; it gave the readers something extra. Using the previous examples, the documented procedure helped them set up a complicated system in the most efficient way, told them how to manage network clusters more effectively, or explained the advantages of the hardware architecture.

A document can be "helpful" but not "beneficial" or "advantageous." Sure, the reader set up the system, but it took three hours when it could have taken two; the reader can manage the network clusters, but it's more complicated than it needs to be; the reader understands the hardware architecture, but doesn't understand why it is this way.

Readers look at documentation, and ask "What's in it for me? Why should I care about this? What value will this information add to my work? How will this make my life easier?" They feel that there must be an additional, emotional level to the documentation. Readers are busy people and are often under a great deal of pressure to get their tasks done—reading documentation is not usually high on their list of priorities. If they feel that they are not wasting their time with the documentation, and that the writer truly wants to make life easier for them, then they will consider the document to be high quality. Accuracy, clarity, and relevance are critical—but for readers, there also needs to be an extra dimension of value.

It is no surprise that the Contextual quality category is represented twice (Valuable and Relevant) in the readers' ratings of DQ. Documentation is never read in a vacuum and is only used in context. Writers, who are not the intended audience of the documentation, can easily lose sight of this and create content devoid of all connection to the context in which the documentation is to be used, but readers cannot use this kind of content.

How do we as writers add value to our documentation? We must understand who our audience is, what they want from the documentation, and in what context they will be using the information we give them. This can be done via user stories, use cases, personas, journey maps, and similar tools that put the writer in the reader's place. We must also ask ourselves, "If I were the reader, would this information help me do my job *better*?" We must understand that readers look to documentation not only for conceptual and procedural information, but also for ways to make their workload easier.

Good News and Bad News

The good news is that both readers and writers define high-quality documentation using a small-yet-comprehensive set of clear and unambiguous information quality dimensions: Accurate, Easy to Understand, and Relevant. Each of these dimensions (together with the Accessible dimension) represents one of the Intrinsic, Representational, Contextual, and Accessibility information quality categories.

We can use these dimensions to classify and sort existing internal or external feedback—which can then be presented to management as clear indicators about the quality of the documentation—and to determine where more emphasis might need to be invested. We can also use them as unambiguous terminology for discussing and analyzing documentation needs with subject matter experts (SMEs) and other writers. This will ensure that everyone involved understands what readers want and how to get there, which should be the goal of all people involved in creating documentation.

The bad news, however, is that we significantly underestimate the importance of documentation *value* to our readers, but this can be solved by considering strategies that put us more directly in the readers' shoes by:

- Thinking about how readers use documentation to make their lives easier;
- Realizing that there is an underlying emotional component to using documentation; and
- Carefully considering the context in which the documentation is used.

This "feel-good, make it worth my while" factor in documentation cannot be ignored. It is not enough for us to give our readers accurate, clear, and relevant information. We must also ensure that the information we give them enables them to feel that it was worth it for them to read what we have written.

YOEL STRIMLING (yoel.strimling@ceva-dsp.com) *has been an editor for 20 years and currently works as the Senior Technical Editor/Documentation Quality SME for CEVA Inc. in Herzelia Pituach, Israel. Over the course of his career, he has successfully improved the content, writing style, and look and feel of his employers' most important and most used customer-facing documentation by researching and applying the principles of documentation quality and survey design. Yoel is a member of tekom Israel, a Senior Member of STC, and the editor of* Corrigo, *the official publication of the STC Technical Editing SIG. You can reach him on Twitter at* @reb_yoel.

RESOURCES

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Conversational Maxims and Technical Documentation:

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Using a Tool from Linguistics in Technical Writing

By JOSEPH DEVNEY | *STC Fellow*

YOU ARE LOST. You see a man walking down the sidewalk, and tell him your plight. Can he offer directions?

"Three blocks down, turn left onto California Street. A couple of blocks up, you will see it on your left. Big Art Deco building. You can't miss it."

You thank him, go on your way, and arrive at the right place in a few moments.

But why did you trust the information? He could have been mistaken. He could have been lying. He may not have given you all the information you needed. His directions may have been vague or ambiguous. You trusted him because that is the way humans typically interact. We assume that everyone in the conversation is trying to be cooperative, unless we have reason to think otherwise. And this assumption is usually true.

But what does "cooperative" mean here? A philosopher of language, Paul Grice, gave a formal description, spelling out four "maxims of conversational cooperation." Before I address the maxims in detail, let me explain why they are relevant to technical communication.

The conversation described above is a *discourse.* That is, some example of language use that is more than a single

sentence. This broader term includes technical documentation of all kinds. Usability consultant Ginny Redish says that writing is an "asymmetric conversation." In linguistic terms, a user manual or a help file is an asymmetric discourse. The company is telling the customer about the product and how to use it, but the customer has little opportunity to talk back. Still, it is a discourse, and the linguistic tools for discourse analysis can be applied.

The Maxims

Grice identified four characteristics of how people engage in conversation: the maxims of conversational cooperation, often called the Gricean maxims.

- The Maxim of Quantity: Be as informative as you can. Give as much information as is needed and no more.
- The Maxim of Quality: Try to be truthful. Do not give information that you know to be false or that is not supported by evidence.
- The Maxim of Relevance: Try to be relevant. Say things that are pertinent to the discourse, at that point in the discourse.
- The Maxim of Manner: Try to be as clear, brief, and orderly as you can in what you say. Avoid ambiguity. Avoid obfuscation.

These maxims are not rules we learn in school. They are the result of Grice observing and analyzing interactions between people. These are the rules he deduced that people follow unconsciously when they interact with others. If everybody follows the maxims—or deviates from them only for accepted reasons, like humor or politeness—you get effective communication.

The Maxims in Discourse Analysis

People don't always follow the maxims. For a linguist analyzing some example of communication, the violation of one of the maxims might be significant. Could it be a sign of deception? Or disrespect? Or something else other than cooperation?

A man was trying to obtain an election ballot in someone else's name. But he was careful not to say anything untrue. He asked the poll worker, "do you have a [name of a deceased voter] on your list?" She did, and read out the address to confirm he was the right person. "That's the address," he replied. "*The* address." Not "*my* address," because that would be explicitly untrue. Not "*his* address," because that would give the game away. He went for ambiguity: He and the poll worker had different ideas of what "the address" meant—but only he knew that.

Discourse analysis revealed the deception.

But in everyday interactions, violating a maxim can be innocuous. Here is a quick example. I am in a restaurant. I say to the waitress, "Do you have a dessert menu?" On the surface, this is a request for information, a yes-or-no question. But why would I care if she had one or not? The waitress quickly reinterprets my question to be the imperative: "Give me your dessert menu." This sort of thing happens all the time.

The Maxims in Technical Discourses

Help files, marketing literature, system administrator manuals, websites, installation instructions—these are all discourses, in the linguistic sense. We can use the Gricean maxims to determine whether they are doing their job. Can the reader accept the content without worry?

As mentioned above, people sometimes violate the maxims. Often what happens is that a different meaning is intended than what it seems to be. In normal conversation, that is okay. Because the Gricean maxims generate *implicatures*. If the literal meaning of an utterance doesn't make sense in context, we automatically look for a way to make it relevant. We depend on the implicatures.

But that is not the case for technical writing. For technical writing, *do not depend on implicatures*. To quote linguist Roger Shuy: "A cardinal rule of comprehension is that the writer should not cause the reader to have to infer the intended meaning." Be explicit.

Let's look at the maxims in detail in relation to technical documentation.

The Maxim of Quantity

"Be as informative as you can. Give as much information as is needed, and no more." I see this maxim violated in technical documentation fairly often, especially if it is not produced by professional technical writers. Maybe you have seen this kind of "name field documentation," as I have heard it called.

> Fill in the following information in this text box.
> 1. **Name:** The name of the Unit is entered in this field.
> 2. **Description:** The description of a Unit is entered in this field.
> 3. **IP Address:** The IP Address of the Unit is entered in this field.
> 4. **MAC Address:** The MAC Address of the Unit is entered in this field.
> 5. **Unit IP Address:** The IP Address of the PC on which the Unit is installed is entered in this field.

This list appeared immediately below an image of the dialog box being explained. You could eliminate the numbers and the explanations without losing any information. In fact, you could delete the list entirely without losing any information, since the dialog box pictured is self-explanatory.

The Maxim of Quality

"Try to be truthful. Do not give information that you know to be false, or that is not supported by evidence." Violations of this maxim are not a big problem in technical communi-

cation. Companies rarely want to lie to their customers. But that phrase, "not supported by evidence," is important. This can become an issue when marketing-type hyperbole turns up in technical documentation.

Have you ever seen technical documentation that introduced a product or a feature by saying it is "powerful?" That would be a pretty subjective judgement. How is "powerful" defined?

Or have you seen expressions like "generating a profit and loss statement is simple"? What evidence do they have that any particular user will think that the task is simple? Quite possibly none. That is just the marketing message.

Technical documentation used to describe or explain a product or a procedure is not the place for unsupported value judgements.

The Maxim of Relevance

"Try to be relevant. Say things that are relevant to the discourse." I once had to help introduce a new version of Microsoft Windows to a large corporation. The consultant they brought in to run the rollout had not worked with technical writers before. He gave us a book published by Microsoft about the new OS that he thought was great. It didn't actually explain the interface. It was mainly biographies of the personas that the team working on it had created. Personas are a useful tool for designing a product, but irrelevant to me or to the audience that I was writing for.

If you have worked with the DITA standard, you know something about the issue of relevance. In DITA, you are required to make a distinction between concept information and task information. You cannot mix the two. This is a way of enforcing relevance, so you don't add conceptual information in the middle of a set of procedural steps.

Another problem that I have seen multiple times is including the history of the company or the technology in technical and instructional content. This information is not important to people who turn to the documentation, because they want to get a specific job done.

The Maxim of Manner

"Try to be as clear, brief, and orderly as you can in what you say. Avoid ambiguity. Avoid obfuscation."

Clear. Brief. Orderly.

No ambiguity. No obfuscation.

This maxim is the one most broadly applicable to technical writing—and to technical communication in general. These are our preeminent goals.

You want clarity. Look through your text. Is there anything that could be misinterpreted? Anything that might not be clear to the intended reader?

Here are a few potential problems. You can add to the list.

- Do you use the word *should*? Watch out for that one. It adds ambiguity.
- Check for "garden-path" sentences. These sometimes show up when you leave out an optional "that."
- Avoid vague words.
- Avoid using slashes. A slash connecting two words can be interpreted in multiple ways. And? Or? Two words for the same thing?
- Do you have repetitive definitions or explanations? That is, paragraphs almost identical except for a word or two in the middle?

For technical documentation, one aspect of being orderly is being consistent. Do you always use the same term for the same referent? Not doing so leads to obfuscation. You can confuse the reader. I once read something written by a software engineer in which he referred to the same short string of code as a *function*, a *routine*, and an *API*—all in the course of two consecutive sentences.

To avoid things like that, technical writers sometimes have to be the word police. You might want to create a word list to ensure you get it right throughout a document or suite of documents.

Putting the Maxims to Work

Four maxims, four questions, four things to look for in your documentation. Make sure you are being cooperative in your conversation with your audience.

The Gricean maxims have been used for years to help linguists analyze conversations, speeches, narratives, and other types of discourse. More recently, forensic linguist Roger Shuy has used them to help analyze warning labels, product package inserts, and other types of technical communication. I think that their potential applications in our field are much broader. If you do put them to use, please let me know about your work.

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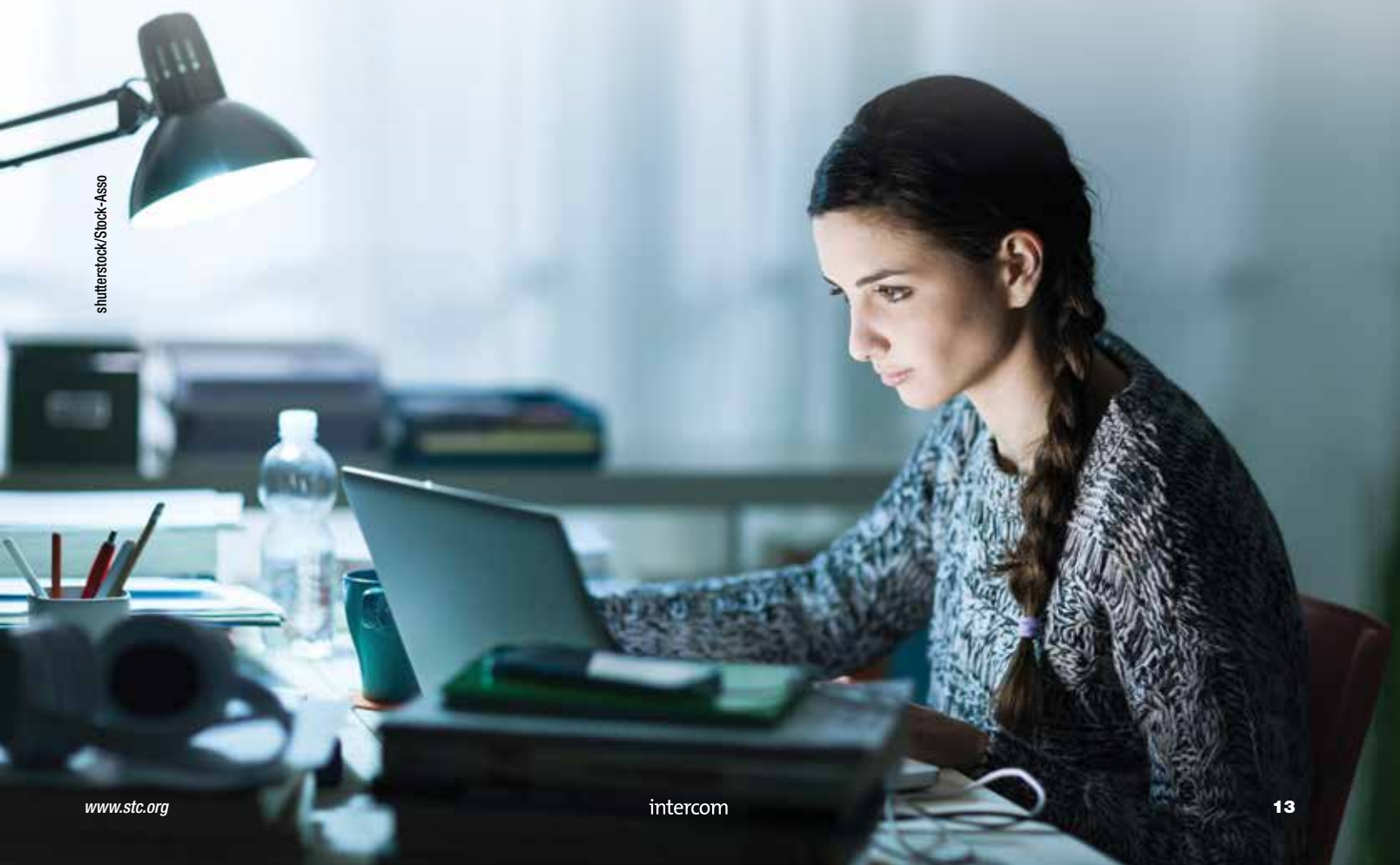
Understanding Our Users:

A Comparative Analysis of the Techniques We Can Use

By KUMAR DHANAGOPAL | *STC Senior Member*



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AS TECHNICAL COMMUNICATORS, we appreciate how important it is to understand the users for whom we develop and publish information. Some of us even plan and undertake formal audience analysis and research before we start developing content for our projects. But access to reliable sources of information to help us understand our users is often limited. Even when we do have access to such sources, the exercise of engaging with our target users can be quite expensive.

In this article, I explore the sources of information that we can use to learn more about our users. I also present a comparative analysis of each source based on two parameters: *availability* and *reliability*. For the purposes of this discussion, availability is a measure of how easy and inexpensive it is to access a given source of information, and reliability is the degree to which information from that source can be used, in isolation, to make information planning decisions.

This evaluation of the availability and reliability of various sources of information about our users is based on my personal experience developing technical content for information technology products in a variety of domains over nearly two decades. However, every product and user is unique, so your experience might vary. At a minimum, you can use this analysis as a framework to shortlist the information sources that you can explore for your technical communication projects.

In Figure 1, I've plotted the relative position of each source of information in a four-quadrant matrix based on the availability (y-axis) and reliability (x-axis) of the information source.

The upper-right quadrant of the graph consists of the information sources that are relatively more available and more reliable. The sources in the other quadrants are relatively less accessible or less reliable.

Most Accessible and Most Reliable Sources

Technical Support

The experience and the knowledge base developed by the support team in most organizations is a rich source of information about the issues that users run into. This information might reveal patterns that we can use to predict issues that users might face in the future. This is a very reliable source of information, *and* it is readily available. So it takes the top spot in our A-R scale.

User Forums

Most large organizations sponsor a community forum where users can post questions and seek solutions. Often, experts within the organization monitor such forums and post answers that users find very useful. In some forums, full-time or volunteer curators monitor the information exchanged in the forums and categorize that information using tags and keywords that others can use to search for

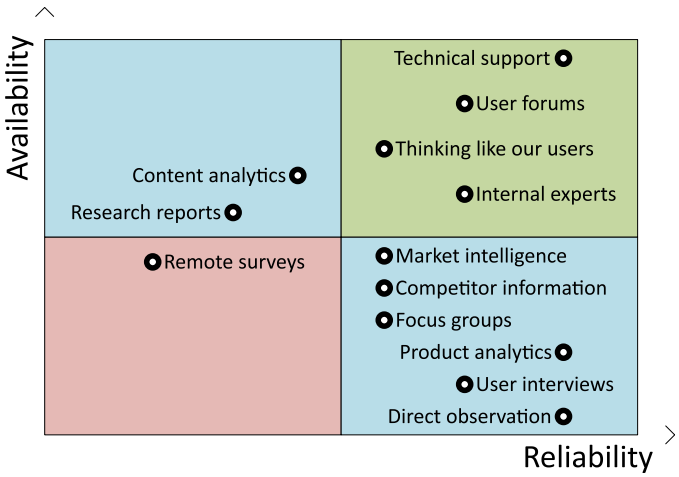

Figure 1. Availability-Reliability (A-R) Scale

information. Such forums offer us an easy avenue to feel the pulse of our user base. The discussions in these forums help us understand what topics are currently "hot." We also get an idea of the range of solutions that experts on the forums are providing. This source of information ranks quite high on the A-R scale; the time spent by technical communicators in watching such discussion forums is time invested well.

Thinking Like Our Users

Most of us attempt to think like our users, when feasible, but it's not easy to completely remove our information-developer hat and think in exactly the same way as the real users of our products. We are typically quite familiar with the products for which we develop information, so we often miss questions and issues that are obvious to our users. In addition, mimicking the customer environment is not easy. One way to think like our users would be to try to break the product; that is, try out the features in what is clearly not the prescribed or correct way. This might reveal opportunities to improve the product and the documentation. Test cases written by our QA colleagues are useful proxies for thinking like our users.

Internal Experts

We rely quite heavily on input from our partners in product management, sales, marketing, and technical support teams. It is reasonably easy to get information about our customers from such internal sources. As long as we approach the right expert, we can be reasonably confident about the quality of the input that they provide.

Most Accessible and Least Reliable Sources

Content Analytics

Content analytics consist of metrics that tell us how our information products—documentation, tutorials, training, videos, and so on—are used by our users. Many organi-

zations track both content and product analytics data, particularly for products and content that are hosted on the Web. Because content analytics often consist of "vanity metrics," such as hits or views, reliability depends heavily on the type of data collected.

Research Reports

Research reports are at a median level of availability. In some cases, research reports are sponsored by a company or a group of companies, so the conclusions in these reports tend to be "moderated" and thus less reliable.

Most Reliable and Least Accessible Sources

Market Intelligence

While roughly as accessible as research reports, market intelligence data is often acquired from third-party sources and thus tends to be more reliable than general research reports.

Competitor Information

This source includes information that's available publicly from competitors and information that's published by trade analysts and research groups to private subscribers. The privately published information is obviously more difficult to get. Publicly available information must be used with caution, because the insights from that information may not apply directly to our products and services.

Focus Groups

This method is quite popular with product designers, particularly UI designers. Essentially, we assemble a carefully selected group of individuals who we think represent our user base, and then we get this group to use our product and content and share their experience. This method is relatively more expensive, particularly if it's done in real time and face-to-face. But the value of the data collected through this method can be more reliable than data collected from other sources.

Product Analytics

Product analytics help us understand how our users use our products. Many organizations track both content and product analytics data, particularly for products and content that are hosted on the Web. Product analytics are relatively less accessible to technical communicators, but the information they provide offers more direct and reliable insights into user behavior, user experience, and user preferences.

User Interviews

After direct observation of users, this method offers the most reliable insights into customer behavior and preferences, but it is also expensive. As with surveys, there may be legal restrictions that dictate the questions that we can ask in such interviews.

Direct Observation

Watching our users in action is one of the most rewarding approaches to understanding our users. Though it can be quite expensive, this method is the closest we can get to experiencing our product and content like our users do. When we watch users using our product, we get interesting insights into how they navigate the product, how they interact with input fields, and when they seek help. Users will always do things that we never expected!

Least Accessible and Least Reliable Sources

Online and Mail Surveys

Surveys help us reach large segments of our users, but the usefulness of survey data is a function of how well the survey is designed, how carefully the participants are selected, and how honestly the participants answer the survey questions. Also, there are often legal constraints around engaging directly with our users, particularly external users.

When we make day-to-day decisions about our audiences, we want to base those on the most reliable information we have. However, we also must be realistic about the availability of that reliable information. As we plan our projects, we should strive to collect information from the most reliable sources, starting with those that are most readily available. This is the low-hanging fruit of audience intelligence. While this framework is not exhaustive, use it as a starting point for identifying and classifying your own sources of audience information, and use the sources provided to shortlist sources—those in the upper-right quadrant, for example—that you can explore for your technical communication projects.

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Writing Manuals that Disrupt Systems and Empower Users

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By DANIELLE D. BRIGHTON

MANUALS ARE ONE of the most ubiquitous deliverables of technical communication. They are often thought of as how-to guides or a set of instructions. They teach a user how to correctly engage with a particular system or technology, whether a computer, software, or Lego set. Is that all that manuals are capable of doing? Is a manual's only purpose to teach a user how to use a system, or is there something more that manuals can do? More importantly, is there something more that manuals *should* do?

In some instances, manuals should do more than teach a user how to engage with a system. For instance, consider Marika Seigel's example of learning how to navigate the technological system of prenatal care (what she defines as the system comprising the pregnant body, fetus, technological implements and procedures of prenatal care, and prenatal testing) via pregnancy manuals. In her book *The Rhetoric of Pregnancy,* Seigel shares her story of consulting a variety of pregnancy manuals to find information about how to manage her pregnancy. Although by usability standards the manuals she consulted were good, she was left feeling like something was lacking. She discovered that these feelings came from her perception of usability—her perception that despite measuring up to technical communication's current usability standards, the manuals still lacked usability because they held "a functional rather than a critical orientation to the technological system of prenatal care" (20). Borrowing from the terminology of Adam Banks, Professor and Faculty Director of the Program in Writing and Rhetoric at Stanford University, Seigel uses the term "functional access" to describe when a user knows how to engage with a system, while critical access is reserved for a user who "knows how to engage strategically with, disengage from, and negotiate a technological system" (20).

In the case of prenatal care, manuals should do more than teach users how to comply with the existing system because, as Seigel explains, "[I]t is important for users to have a critical understanding of the purpose for which they are disciplining their bodies and submitting to such discipline, especially when the technological system with which they are engaging has the potential to have material effects on their physical and mental well-being, as does the prenatal care system" (14). Seigel argues that this is not limited just to pregnancy manuals, however, as manuals should provide users with critical access to systems whenever "bodies are explicitly components of those [technological] systems (or even when they are implicitly components, as in computer systems)" (14).

Using Seigel's work as a guide, I explored the pregnancy manuals I recently consulted during my own first pregnancy, and I identified some ways in which my manual selections helped me to engage critically with the system that I encountered during my own prenatal care. Drawing from the strengths of those pregnancy manuals, I offer specific suggestions for technical communicators about how to craft manuals that facilitate *critical* access—rather than merely *functional* access—to a particular system. By incorporating these suggestions into practice, technical communicators have the tools necessary to both empower their users to think more critically and to disrupt mainstream monolithic systems and ways of thinking, should that be their goal.

Discuss Options Rather Than Make Assumptions

In Dianne E. Moran and G. Byron Kallam's manual *The Gift of Motherhood: Your Personal Journey Through Prepared Childbirth,* there are times throughout the manual where the user sees different options discussed rather than assumptions being made, such as in a section that explains what to consider when choosing a hospital or birthing center. Rather than merely assume that women will give birth in a hospital, Moran and Kallam take the time to at least list another alternative (i.e., a birthing center) and what to consider when making that choice. The authors do this again in a section that describes several people who might be a part of a woman's circle of care, including a midwife and doula. Moran and Kallam take a few paragraphs to explain what both of these roles are, as well as the possible benefits of including them in the circle of care. In this way, the manual makes an effort to mention several roles that are not often included in the system of prenatal care, thus allowing women to critically consider options they otherwise might not have considered.

Sometimes the different options and opinions available will vary greatly, and that is okay. As authors Rallie McAllister and Jennifer Bright Reich write in their manual, *The Mommy MD Guide to Pregnancy and Birth,* "Pregnancy and birth are filled with issues that people feel very strongly about….We've presented many different viewpoints—but not with the intent to confuse or to offer conflicting advice. Instead, we wish to present many different options so that you can choose what's best for you and your family" (ix). Technical communicators can similarly incorporate this tactic into their own manuals. Rather than make an overriding assumption about a course of action, they should first consider other possible options that might benefit the user, include some of those options and descriptions in their manuals, and then let the user decide which options are most appropriate for them.

Provide a Section with More Comprehensive Information

If it seems impossible to weave in information that facilitates critical access throughout the entire manual, a good step in the right direction is including a specific section that helps users reach the level of critical access. This section could be placed near the end of the manual, behind the information that teaches how to functionally engage with the system, so as to not overwhelm the user. The manual could also include an introduction that explains this section and its purpose. That way, users who are interested in functional access can easily use the manual, and those who are interested in gaining a deeper, more critical understanding can also easily access that information.

The *Mayo Clinic Guide to a Healthy Pregnancy*, authored by the pregnancy experts at Mayo Clinic, achieves a large degree of critical access by providing a specific section titled "Important Decisions of Pregnancy." Although many of the topics were covered on a basic (and functional) level in other, earlier parts of the manual, this section is comprehensive and thorough, devoting an entire chapter each to various topics, such as genetic screening, prenatal testing, and contraception after delivery. Most of these chapters provide an overview of the topic and then cover information, such as what options women have, what issues they should consider to help them make a decision, and key questions they should ask themselves before making their decision. Although users were not provided with information that granted critical access throughout the entire manual, they were at least provided that information in a section of the manual, which is much better than nothing.

Teach Users How to Question the System

One way to help users gain a critical understanding of the system with which they are involved is by teaching them how to question the system, rather than merely comply with it. Although this may be difficult to do and may seem counterintuitive to some users, it can be an important way to help them understand when it may be desirable or necessary to disengage from the system. Not all standard policies and procedures of a system are always in the best interest of all the system's users, and as such, teaching users how to question the system will help them know when it is in their best interest to not engage with the system.

The Gift of Motherhood teaches its users how to question the system of prenatal care by providing a graphic labeled "Informed Consent Questions for Labor and Birth." This graphic encourages women who are making decisions to consider the benefits, risks, and alternatives of suggested procedures, to rely on their intuition, and to take the necessary time to fully consider any decision. The *Mayo Clinic Guide* similarly teaches users to question the system. For example, in this manual's chapter about prenatal tests, women are introduced to a list of questions that they might consider before scheduling a certain test (306):

- What will you do with the information once you have it?
- How will it affect decisions regarding your pregnancy?
- Will the information provide better care or treatment during pregnancy or delivery?
- How accurate are the results of the test?

- Will undergoing a test be worth the anxiety it may cause?
- What are the risks of the procedure?
- How much does the test cost? Is it covered by your health insurance?

These manuals teach users that they have a right to ask questions and should not passively accept any information that is given to them. Furthermore, they also teach users how to ask questions by providing specific examples of questions for them to ask. Technical communicators can likewise encourage their users to think critically and provide specific questions for users to ask themselves in an effort to elevate manuals from facilitating functional access to critical access.

Use Narratives and User Knowledge

The most interesting and defining feature of *The Mommy MD Guide* is the use of narratives by what are called "Mommy MD Guides." Not only are the Mommy MD Guides doctors with medical knowledge, but most importantly they are also mothers—users of the system themselves. The manual is arranged so that the authors cover a topic, and then they include additional comments from the Mommy MD Guides.

For example, after the authors cover the topic of choosing a healthcare provider, they give the Mommy MD Guides a chance to share what they chose for their pregnancies and why they made those decisions. One Mommy MD Guide wrote that she had her first two babies delivered by midwives and her last two by a family doctor. Regarding her family doctor she wrote, "I looked for a doctor who understood that I wasn't diseased, only pregnant. He was willing to be there during my deliveries just in case he was needed—not to intervene" (35).

Another Mommy MD Guide chose to have midwives deliver her babies at home. She said that even though her father was a doctor, she wanted a different approach to her pregnancies, one that didn't view birth as a medical emergency or illness. I share a large passage here to demonstrate the power of allowing users to share their knowledge through narrative. She wrote, "To me, the birth process is very normal and natural. I felt much more comfortable with midwives, who are highly trained in the process of vaginal births. At the end of the day, my fellow obstetricians are trained surgeons. They are excellent at what they do, but it was important for me to try and have a natural birth if I could. I feel it is healthier for us, and for our children. I wanted to avoid medical intervention unless my midwife thought it was important…. I feel very blessed that I was able to have my children the way nature intended" (36–37).

By taking the time to enumerate some different choices and perspectives on pregnancy and childbirth by actual users of the system, the manual incorporates types of knowledge that are often excluded from manuals. Technical communicators should also consider other types and sources of knowledge when writing manuals rather than assume that they are the only experts on a subject. Including personal narratives or user comments is one way technical communicators can incorporate additional voices and sources of knowledge.

There are several specific strategies I recommend that technical communicators consider adopting when crafting manuals that facilitate critical, rather than functional, access to a system. They can:

- Provide and discuss options rather than make assumptions for users;
- Include a special section dedicated to providing detailed and comprehensive information;
- Teach users how to question the system; and
- Include narratives and user knowledge.

It is important that technical communicators consider these various methods when writing manuals, because manuals carry power, and they have potential beyond enabling users to "correctly" use a system or technology. Manuals also have the power to disrupt existing systems and ways of knowing and to empower their users. Seigel calls these types of manuals "system-disrupting," as opposed to the more common "system-maintaining," model of manuals that allow functional access. As we have seen in the case of pregnancy manuals, these manuals have the power to disrupt mainstream medical discourse and the institution of medicine by allowing various interpretations of prenatal care and the work of pregnancy to emerge from the sidelines. This is important, because technical communicators should always be aware of the voices that they let speak in their manuals—that in the constant tug and pull of competition between time, resources, and competing priorities, they do not neglect to focus on empowerment, and that they consider whether they are giving a voice to all the populations that deserve to speak.

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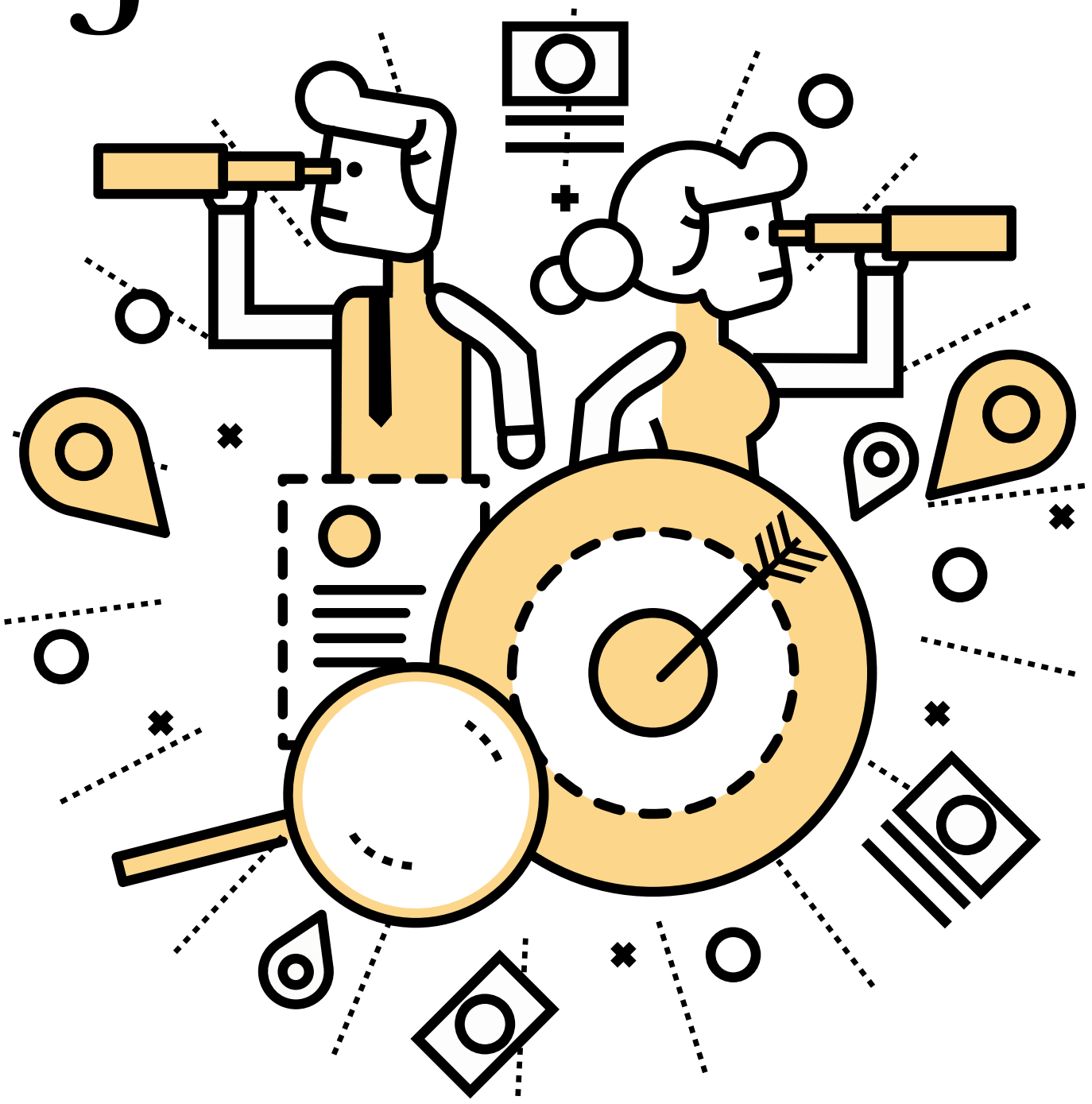
Writing for Job Seekers:



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By WILLIAM HART | *STC Student Member*

Inclusive Technical Writing Benefits Organizations Interested in Attracting a Diverse Group of Candidates

HIRING THE BEST candidate for a position and creating an effective onboarding process are important in any organization. Costs are incurred from the time the position is posted until a new employee is successfully onboarded and becomes productive. Yet some organizations are missing out on a large pool of potential candidates, because job descriptions and/or training documents are not inclusive and create a disconnect. Fortunately, this can be easily fixed when writers become aware of bias in technical documents and understand how to avoid it.

Recently, I became aware of technical documents creating barriers for potential candidates through bias. I say "recently" because, as a white, middle-class male, I was blind to the privilege of being able to "see myself" in every job description, training document, and technical document that I read. I had gone almost thirty years without experiencing bias in writing, but there are people who deal with this daily. Now that I am aware of my privilege, I have made it my professional goal to remove bias from technical documents, regardless of how subtle or blatant, and create an inclusive employee experience beginning the day a job is posted.

My awareness happened when my husband and I welcomed our son, Deacon, into the world September 2014. Born at 28 weeks, he was in the NICU for 97 days before he was cleared to come home. Prior to being released from the hospital, there were classes that we had to complete. One of the classes that I had to attend alone due to my husband's schedule was a class on the importance of skin-to-skin contact, or "kangarooing." We had been kangarooing with Deacon every chance we got, because research has shown that it helps regulate the baby's body temperature, heart rate, and breathing. When I sat down in the class, I realized that I was the only dad that day, which wasn't unusual.

As the class went on, I realized that the booklet was not written with the assumption that a male may be the parent kangarooing. In fact, there was not a single mention of a dad in the entire book. Normally, my tendency to edit would have gotten the best of me, and I would have pulled out a pen and begun marking up this pamphlet with corrections. Instead, I assumed the book was outdated, so I flipped it over to find out that it was last edited in 2013. This was the updated edition.

At the time, my goal was to complete this class so that we could take our son home, but I could never shake the feeling that I was not the intended audience for that training. Later when I became a training specialist and then training manager, I thought about that feeling when designing curricula. I wanted to ensure that my audience, regardless of gender, race, age, or ethnicity, could see themselves in my technical writing.

When I began researching gender bias in training documents academically, I focused specifically on industries that were considered "male-dominated." This brought me to analyzing aviation training documents posted by the Federal Aviation Administration (FAA). Women have played an integral part in aviation industry from the very beginning, but the FAA's Aeronautical Center estimated in 2017 that women make up only seven percent of licensed pilots.

In my current research, I focus on bias in online job descriptions. Using both quantitative and qualitative analysis, several guidelines emerged that could help reduce gender bias in technical documents.

Gender Bias in Job Descriptions

Craigslist provides an interesting sample with which to analyze job ads for "male dominated" professions. Because Craigslist limits the number of postings that they edit and provides a way to advertise at little or no cost, there are a large number of samples to research that are posted directly by a hiring manager. From job postings looking for "a mechanic with his own tools" to an interest in manager candidates looking to "build his career with a great group of guys," these job descriptions create disconnect for over half the population and perpetuate stereotypes that continue to hold several industries back because of antiquated gender roles. It is concerning what these job descriptions imply to possible candidates, but even more concerning is what they imply to other readers currently working in that profession.

When writing job descriptions:

- Use gender neutral titles and pronouns.
- Avoid aggressive language, like "destroy the competition."
- Highlight commitment to equality and diversity, such as family-friendly benefits.

Gender Bias in Pronouns

A large percentage of aviation training documents assumed that the subject was male and used gender-specific pronouns (he, his, him, himself). There were attempts to be inclusive by using gender-neutral pronouns (his or her, he/she), but it is worth noting that a female-specific pronoun was never used independently of a male-specific pronoun, and the examples of inclusive writing were inconsistent. In the training documents, male pronouns were not limited to the description of the pilot, but other aviation professionals as well.

The *Chicago Manual of Style*, *American Psychological Association Style Guide*, and the *Modern Language Association of America Style Guide* all recommend rewriting phrases when possible by using gender-neutral third-person plural pronouns (they, their, them). If this is not possible, all three recommend using the combined gender-neutral solution "he or she."

Gender Bias in Scenarios

In some examples, bias was identified in the context of the scenario. There were several examples that mentioned the pilot's wife—and one could argue that women pilots could also have wives—but there was not a single scenario where the pilot had a husband. There were also several examples stating that the pilot was a father and none stating that the pilot was a mother.

When creating scenarios, second-person is less likely to be biased, as long as the technical writer can maintain neutrality throughout. There were several examples where gender-specific terms could be easily replaced (e.g., by replacing "wife" with "spouse") and the outcome of the scenario would be the same, just more inclusive.

For third-person examples, gender-specific terms are acceptable when necessary, as long as the gender specified is alternated in the document. If the first example is a male pilot, then make the second example female.

Studies have indicated that companies committed to a diverse workforce are more successful. The guidelines I identified from my research have helped me to be an inclusive technical writer and editor for others interested in eliminating bias. By considering a diverse audience and approaching authoring technical documents as inclusive, organizations can optimize their pool of potential candidates interested in joining their team. When a company mirrors the diversity found in the communities that it serves, they are better able to meet the needs of their customers. Driving connection through inclusive technical writing ensures the documents we author and edit to protect our employers' bottom line by enabling the audience to connect with the information presented and to invest in the success of the organization.

WILLIAM HART (whart@email.fielding.edu) *is currently a PhD student at Fielding Graduate University, and he received his Master's degree in Technical Communication from Minnesota State University-Mankato. His research focuses on the intersection of inclusive writing and technical documents. He currently serves as Region Training Manager for AutoNation, the country's largest automotive retailer. William resides in Gilbert, Arizona with his husband, Billy, and son, Deacon.*

Deadlines for STC Community Competitions

EACH YEAR, STC's communities sponsor competitions through which technical communicators have the opportunity to receive recognition for their work. Entries in the community competitions may receive an Excellence, Distinguished, or Merit Award. Each entry is judged against criteria that measure the degree of technical content, achievement of purpose, and technical execution, whether online or in a printed deliverable.

Competitions are open to technical communication professionals. You do not have to be a member of STC to participate. Entry fees are set by the community hosting the competition, and are payable directly to the community. Below is a list of communities hosting competitions, along with contact information for the competition manager. Other competitions may be added, so please refer to the competitions page on the STC website for the latest information.

Entries are submitted in the following four categories:

- Informational Materials
- Instructional Materials
- Promotional Materials
- User Support Materials

Competition Name: STC Chicago Technical Communication Competition
Sponsoring chapter: STC Chicago
Competition URL: *http://www.stc-chicago.com/competition*
Competition Open: Now
Entry Deadline: 15 October 2018
Judge Application Deadline: 1 November 2018
Competition Manager: MK Grueneberg; *Competition@stc-chicago.com*

Competition Name: Touchstone
Sponsoring chapters: Berkeley, East Bay, San Francisco, Silicon Valley
Competition URL: *http://www.stc-touchstone.org/*
Competition Open: Now
Entry Deadline: 6 October 2018
Competition Managers: Nicki Davis, *nickinmr@gmail.com;* Richard Mateosian, *xrmxrm@gmail.com*

Competition Name: STC Regional Technical Communication Competition 2018-2019
Sponsoring chapter: West Michigan Shores, Southeastern Michigan
Competition page URL: *https://sites.google.com/site/wmsstc/competition*
Competition Open: Now
Entry Deadline: 2 November 2018
Competition Co-managers: Peggy Frizzo, *peggy.frizzo@dematic.com*; Sandy Balkema, *sandybalkema@yahoo.com;* Alison Phillips, *phillips.A3@gmail.com*

Competition Name: STC WDCB 2018 Technical Communication Competition
Sponsoring chapter: Washington, DC-Baltimore
Competition URL: *http://competition.stcwdc.org/*
Competition Open: Now
Entry Deadline: 10 November 2018
Judge Application Deadline: 30 November 2018
Competition Manager: Tavia Record, *taviarecord@icloud.com*

Jay R. Gould Award Call for Nominations

STC IS SEEKING nominees for the 2019 Jay R. Gould Award for Excellence in Teaching Technical Communication. This award honors true academic mentorship; a record of successful students, defined as those who are involved in STC, and actively working in the profession; involvement in student activities outside of the classroom; innovation and creativity in teaching, and involvement in research that leads to changes in the way technical communication is taught.

The award is open to STC members who have belonged to the Society for at least ten years, have been involved in post-secondary education for at least fifteen years, and whose primary career is teaching the philosophy and theory of technical communication as a distinct discipline. Candidates can be nominated by department chairs, deans, colleagues, or students. **Recommendations are due 2 October 2018**, and recommended candidates must provide supporting materials by **13 November 2018**. The chosen honorees will be notified after a vote by the STC Board of Directors in early 2019. The award will be presented at the Honors Reception at the 2019 STC Technical Communication Summit & Expo in Denver, CO.

For more information, please visit *https://www.stc.org/jay-r-gould-award-excellence-teaching/*. For questions, please contact Jay R. Gould Committee Chair Pam Brewer at *brewer_pe@mercer.edu*, or STC staff liaison Elaine Gilliam at *elaine.gilliam@stc.org*. Good luck to the nominees!

Introducing the STC Health and Medicine Special Interest Group (SIG)

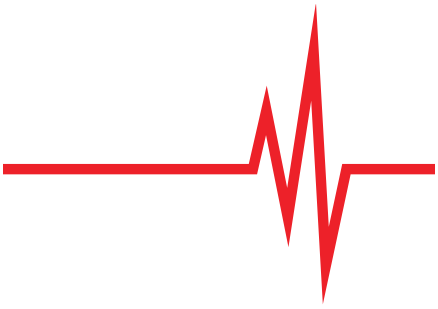
BY KIRK ST.AMANT and HEIDI LAWRENCE

STC'S NEWEST Special Interest Group (SIG) — Health and Medicine—invites members interested in healthcare and medicine to join the SIG.

The Health and Medicine SIG provides SIG members with information on trends, practices, and resources for applying technical communication skills in health and medical settings. Specifically, we provide technical communicators with:

- Resources for learning more about working in health or medical contexts
- Updates on trends affecting communication practices in health and medical contexts
- Information on events focusing on communication practices in health and medical contexts
- Summaries of policies governing health and medical communication practices

Our mission is to help members who have different levels of familiarity with health and medical topics learn how to apply their skills in different health and medical contexts.



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SIG Activities

We invite STC members to contribute to a number of initiatives the SIG will undertake this year. These include contributing to

- A website that will provide updates on SIG activities and links to SIG-related resources
- Social media accounts—including a Facebook page (STC Health and Medicine) and Twitter account (*@STCHealthMed*)—to provide updates on health and medical topics connected to technical communication practices
- A blog to provide information on working in (or to begin working in) health and medical contexts
- Webinars on concepts, developments, and practices associated with working in health and medical contexts
- Content on health and medical communication practices for the STC Body of Knowledge to expand entries in this area
- A bibliography of resources for learning more about communication practices in health and medical contexts

Members are also welcome to suggest or volunteer for other activities or resources the SIG can focus on in its first year.

Interested in learning more? Contact the SIG co-managers, Kirk St.Amant at *kirk.stamant@gmail.com* or Heidi Lawrence at *hlawren2@gmu.edu*.

Please consider joining us and participating in our ongoing conversations!

CERTIFIED PROFESSIONAL Technical Communicator
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Cannabis in Canada:
Navigating a Risky Intersection

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BY THOMAS BARKER | *STC Fellow*

THE THEME OF UNDERSTANDING audiences is not new to technical writers or technical writing teachers. Task orientation is a cornerstone of our work. The instant a writer asks questions about the reader's need to know, the writer faces the need to shape technical materials in human ways. The art of communicating is to work in the knowledge gaps between existing knowledge and how readers think.

Some materials, such as technical hazard assessments, often clash with readers' ways of thinking. This is especially so with cannabis issues now facing Canadian risk regulators. What is impairment? How do people think about personal use, and how does that thinking affect use in the workplace or automobile? What role does risk messaging play in helping recreational users make safe decisions?

In risk communication, adaptation to audiences is often based on assumptions about how stakeholders (called *transactors,* because they are the ones who take risky or dangerous actions) perceive risks. They may or may not perceive wild animals, swimming in surf, taking illicit drugs, or jaywalking as risky. Communicators often use familiar risk comparisons ("as risky as") to evoke a little healthy anxiety. On the other hand, risk communicators rely on categories of risk takers (*risk prone* vs. *risk averse*) to predict and shape risk messaging. Neither technique can boast of being scientific or precise, which may account for the number and visibility of cases where risk communication missed its target audience completely.

In this edition of *The Academic Conversation*, I focus on efforts risk communicators can take to make risk communication more precise, if not scientific. In this article, I will look at a framework and process developed by Health Canada as a blueprint for aligning risk communication with expert assessments. Next, we will examine how the Alberta Gaming and Liquor Commission is addressing one of the most pressing communication issues in the province: cannabis-impaired driving.

The Health Canada Framework

In 2006, Health Canada, the regulatory agency in Canada for health communication, took a step back from issues like impairment. Their framework and handbook were designed to make the risk communication process more precise and efficient. The agency's approach was to identify strategic goals and objectives and then to use guidelines to shape communication products (messages) to align with organizational values. By relying on guidelines, the agency followed a known technical communication practice: set expectations to help readers follow a series of steps.

The framework also focused on decision making and dialogue as concepts to enlighten message design. In doing so, they made a crucial distinction between public opinion and public judgement. Public opinion on a hazard, such as impaired driving, may be one thing, but it probably isn't based on research or thinking. Hence it may be less sensitive to messaging, or more likely, subject to discounting of some messages for the wrong reasons. Instead, understanding public judgement about a hazard is a much more desirable goal. Judgement suggests deliberation and thought, which are processes that can indeed be addressed through messaging.

Shaping the Health Risk Communication Process

With guidelines in place, the Health Canada approach urges communicators to follow a seven-step dialogic process to develop messages that stimulate safe thinking about health risks. That process includes the following stages:

1. Defining the *opportunity* for communication based on technical assessments of potential risk. Using the term *opportunity* puts the communication effort squarely in the sights of communication specialists (rather than public opinion experts or marketing communicators).
2. Creating a thorough description of the situation to identify key players on both the *regulator* and *transactor* sides of the issue.
3. Assessing stakeholder perceptions, a key phase of

This column focuses on a broad range of practical academic issues from teaching and training to professional concerns, research, and technologies of interest to teachers, students, and researchers. Please send comments and suggestions to column editor Thomas Barker at *ttbarker@ualberta.ca.*

the risk communication process. In this stage both expert and transactor ways of thinking contribute to the communicator's understanding of the messaging challenge. So assessments of *both* expert and stakeholder thinking occurs at this stage.

4. Comparing these assessments to yield areas where communicative intervention (well-designed messaging) can mitigate and align what might be otherwise separate cognitive pathways.

Stages 5, 6, and 7 guide the communicator in using those pathways to create text and implement and evaluate communication effectiveness in alignment with the framework guidelines. The process, from team to evaluation, is intended to bring rigour into the communication process, seeing communicative acts as important mitigating tools to fill the gaps between the way experts and stakeholders think.

Cannabis Risk Communication Issues in Alberta and Canada

According to the Alberta Liquor and Gaming Commission, cannabis has taken its place with two other highly regulated industries: liquor and gambling. Their website now covers alcohol, gaming, and cannabis. As of 17 October 2018 it will be legal to purchase and carry up to 30 grams (roughly one ounce) of cannabis at a time. It is illegal to drive high, and there are other restrictions that are articulated in the Alberta Cannabis Framework.

Expert and Stakeholder Assessments

The primary expert assessment of the dangers associated with cannabis use (driving and work impairment, access to children, responsible personal use, public health, and illegal marketing) is in The Alberta Cannabis Framework. That framework lays out the approach that the provincial government takes to the safe use of cannabis. It outlines the four policy priorities for cannabis legalization in the province:

1. Keeping cannabis out of the hands of children and youth
2. Protecting safety on roads, in workplaces, and in public spaces
3. Protecting public health
4. Limiting the illegal market for cannabis

But this is not a communication framework. From the perspective of the Health Canada Framework, this assessment provides one key element in the matrix of assessments necessary for effective risk communication. These assessments outline important elements like legal restrictions, definitions of impairment (blood content), and legislation. They represent the regulatory policies in place that shape healthy and safe use. The other element in the matrix is stakeholder assessments. These policies are not communication, but instead are starting points for message design.

Stakeholder Assessments

Message design comes after stakeholders have expressed their thinking on the health and safety aspects of cannabis use. Stakeholders in Alberta include municipalities, industry representatives, law enforcement, and the public. Engagement activities with these groups cover topics like public use, public safety, purchasing, and economic implications.

These results (summarized on the Government of Alberta website) provide insights into how these important groups think about the topic.

Risk communication begins by examining these two sets of ideas and finding gaps. For example, in the case of impaired driving, the public seemed to align with government policy. According to the website, "Almost all Albertans who participated in the online survey and telephone survey in the summer supported zero tolerance for any drugs for new drivers and drivers under 18, just like there is now for alcohol." Public understanding and acceptance of alcohol-related impairment can provide a theme for risk-communication messaging.

In cases where alignment is less obvious, the Health Canada communication framework advises, that "the purpose of a written plan is to ensure that all essential elements have been engineered into a well-focused and coordinated effort." The emphasis is on a systematic process that leads to effective communication. The communication designer can engineer out the risk of communicating by "using methods and tools to systematically define … stakeholders, identify their interests and priorities, and design and implement strategies and communications that address these explicitly."

The shaping of risk communication materials would do well to follow the strategies and processes in the Health Canada risk communication framework. This model allows for a dialogic process that works in the intersection between expert and stakeholder knowledge. This framework provides a way for communication designers to approach a difficult subject—such as cannabis-impaired driving—with purpose and strategy.

RESOURCES

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Alberta Cannabis Framework. "Cannabis Legalization in Alberta." Government of Alberta. *https://www.alberta.ca/cannabis-legalization.aspx.*

Alberta Cannabis Framework. "What We Heard: Stakeholder Feedback." Government of Alberta. *https://www.alberta.ca/cannabis-what-we-heard.aspx.*

Health Canada. "Strategic Risk Communications Framework." Government of Canada. *https://www.canada.ca/en/health-canada/corporate/about-health-canada/activities-responsibilities/risk-communications.html.*

It Depends. . .

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BY MICHELLE CORBIN | *STC Fellow*

"Can I use this acronym or abbreviation in this label?" It depends.

"Can I use passive voice in an FAQ document?" It depends.

"Can I use different colors for my headings and my body text?" It depends.

"Can I use sentence fragments in error messages?" It depends.

"Can I ask too many rhetorical questions at the start of my article?" It depends.

One of my technical writers joked that he was going to get me a t-shirt with my "It depends" catch phrase on it. He was bemused and befuddled that a technical editor would utter that phrase so frequently.

Some might think that the answers to these editorial questions would be "It depends on the style guide," or "It depends on the design guide," but the answer is almost always, "It depends on the users." Ultimately, every decision that a technical editor makes when editing technical content *must* be based on a complete understanding of the users and their tasks.

When I say a complete understanding of your users, I mean a *complete* understanding, including their age, gender, education, experience, spoken language, culture, and so on. The decision that a technical editor makes for an older female college graduate whose native language is English will be different from the decision made for a younger male high school dropout whose native language is Spanish. User characteristics influence word choice (whether or when to use an acronym), sentence structure (short, simple sentences only), color choices (avoiding certain colors due to color-blindness), quantity of content (less is more), the type of content (educational, troubleshooting, etc.), and the organization or location of that content (in the UI, on the Web, in a printed card, etc.).

Obviously, most products have a broader range of users for which we must provide documentation. That's when we rely on personas, or the "typical users" of the product. After researching and talking with a variety of users about your product, you create and review personas that you then use to make your decisions (you can read more about the 10 steps to creating personas on the Interaction Design Foundation website or the latest research on personas from the Nielsen Norman Group—see References).

Technical editors must layer this deep understanding of the users and their tasks on top of their understanding of the company style guide (which is layered on top of their understanding of the rules and conventions of grammar, style, and usage) in order to make decisions about the questions they are asked and about the changes that they are proposing to the technical content that they are editing.

While all members of an information development team should have a complete understanding of the users and their tasks, technical editors cannot be successful without this understanding. While technical editors might present answers to questions in a more definitive manner, in the back of their minds will always be the default response, "It depends."

In Editing Matters, Michelle Corbin covers matters (topics) about editing that matter (are of consequence) to communicators of all kinds. Watch this space to understand more about editing and what you can do to improve the quality of your content. To suggest a topic or ask a question, contact Michelle at *michelle.l.corbin@gmail.com.*

REFERENCES

Dam, Rikke, and Teo Siang. "Personas – A Simple Introduction." *Interaction Design Foundation*. Retrieved 5 August 2018. *https://www.interaction-design.org/literature/article/personas-why-and-how-you-should-use-them.*

Nielsen Norman Group. "Topic: Personas." Nielsen Norman Group website. Retrieved 5 August 2018. *https://www.nngroup.com/topic/personas/.*

I'm Working as Hard as I Can

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BY CINDY CURRIE | *STC Fellow* and
KIT BROWN-HOEKSTRA | *STC Fellow*

Q: What skills do I need to move into a manager role?

A: There are six truly essential skills you need to be an effective manager:

- Leadership
- Communication
- Collaboration
- Critical Thinking
- Finance
- Project Management

To grow into a manager role, first learn about what management positions are available in your organization, understand the responsibilities of each, and determine what your near-term and long-term career goals are.

Be sure to talk to your current manager about your career goals and ask for support for your aspiration to be a manager. You may find that your manager is willing and able to guide you toward management positions, and to work with you formally (perhaps via your individual development plan) to help you move forward. There might also be aspects of your manager's job you can help with now to jump-start or enhance your learning.

It's important to do a self-assessment of where you think you are regarding the six skills listed above. Ask your manager for input on your current level of skill in each of these areas as well. Together, you can understand where you are now and chart a course for future growth.

Also consider side gigs (as discussed in our last column). If you're looking to improve a skill, and you find an opportunity outside your company to work on something that will give you the experience you are looking for, take advantage of that opportunity (as long as it does not conflict with your company's policies on outside work).

Q: My manager thinks I need to be more productive, but I'm working as hard as I can. How can I tell him that he's not being realistic?

A: First, you need to ask your manager to elaborate on what issues he sees with your productivity. Make sure you understand completely what these issues are before you attempt to counter his claim, as you and your manager may be talking about different things. You need to understand what productivity measures are being used and how they are measured. Do not necessarily counter his claim during this initial discussion. Be sure you are listening to understand what he is saying.

Then, take some time to consider what your manager has told you, and see if there are some things you can do differently to move closer to meeting productivity goals.

Once you are sure you fully understand where the concerns lie, and if you still feel your manager is being unrealistic, start to build your case—based on demonstrable facts, not emotions—about how and why things are unrealistic. If you are comfortable doing so, talk to a colleague or two for their opinions and advice. Prepare as many examples as you can. Then, arrange another meeting with your manager to present your case, in a calm and professional manner.

If you and your manager are still at odds about your productivity, it could be time to move on to a different position.

Ask a Tech Comm Manager is an advice column geared toward answering all those questions you have, but might be uncomfortable asking. We glean the questions from social media, forums, and most importantly, from you, dear reader. If we don't know an answer, we will interview experts and get information for you. Send us your questions to *kitbh.stc@gmail.com* or tweet them to *@kitcomgenesis* or the hashtag *#askTCmgr.*

The Value of Trust in Technology (and a Bit about Blockchain)

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BY CHARLES DULL and JEANETTE EVANS
| *STC Associate Fellow*

IN PERSONAL RELATIONSHIPS, trust is critical. You want to trust your friends, family, and spouse. A breakdown in trust is a breakdown in the relationship. Technology is built on a similar principle. You trust the email you are getting is from the person in the header. You trust the bank you log into is going to manage your accounts securely. You trust the purchase you just made was authentic.

Lately, there has been a trust breakdown in technology. Email spam, phishing, and hacks into secure transactions coupled with an inability to verify and authenticate identities have eroded consumer trust in technology. These challenges are so serious that some mobile phone service providers are using a process to identify potential spam calls. While trust is a noble trait for people, it is often co-opted in technology, and at times we do not even know that it's happening.

This column investigates emerging technologies in education and how we might use them in our work. Whether it is social media, wearable technologies, the latest in printers, personalization, big data, BYOD, cloud computing, mobile apps, MOOCs, analytics, digital identity, haptic interfaces, augmented reality, or the Internet of Things, we can all benefit from current thinking on these technologies. Contact the columnists at *jeanette.evans@sbcglobal.net.*

As we ponder the trust paradox, it may be time to consider a trustless process that is tamper-evident. Enter the blockchain.

Blockchain technology was first developed as a method to enact cybercurrency transactions. Those who developed the technology hold a deep-seated belief in protecting personal privacy. While cybercurrencies were designed to work independently of any central bank in any county, the technology that is used for these transactions has benefits for the very central banking and retail entities they disrupt.

Blockchain is a trustless, tamper-evident process that uses math as the backbone for authenticating identities. Another advantage is that blockchain is a DDMS, or *distributed database management system*, because every block in the chain has all of the information for all of that transaction's activity. You do not need to check with a bank, check a receipt, etc. It is all in the block.

Blockchain is a chain of records of transactions that have been mined and authenticated, not by trusted people or banks, but by solving complex math problems. Each block has all of the information for the transaction and has a connection to the previous block. In order to tamper with one block, you have to have a process to tamper with every block and solve every new math problem that would be created.

There are obvious benefits to eliminating hacked financial transactions, but blockchain can also protect other processes. Think for a moment about obtaining the title to a house or car, and all of the steps that you would need to take to authenticate the title and verify your identity. If property transfers were in a blockchain, all of this information would all be in a block.

This all sounds very simple for an extremely complicated process. The math alone used to enable blockchain access is very complex. The primary challenge facing blockchain currently is power consumption; it takes an incredible amount of electric power for a single blockchain transaction. However, the potential to reduce or eliminate hacking cannot be ignored.

Blockchain also solves the personal authentication challenge. Authentication, identification, and validation are terms often used to mean the same thing, yet they are all very different. Using a license to prove who you are is an identification process. Authentication is a process where something else must happen to validate the transaction. Many banks and other secure services, for example, have adopted two-factor authentication routines, so that when you log in, you are sent another code (usually to your phone or email) to enter to validate the process.

In blockchain, authentication happens to protect your personal identity and to protect the validity of the transaction. Blockchain requires users to establish public and private keys, and the process requires a mathematical routine. The keys are connected; the public key is used for transactions and is authenticated by the private key. The transaction never reveals the users' identities, but through authentication, the users can transact or even communicate.

The most challenging aspect of blockchain is that it has variations, and trying to lock down one method that is the primary blockchain technology is just not possible. There are fundamentals, however, and as adoption increases, we will see standards develop.

The math is complex, but the value of a trustless system for technology is worth the change. There is much potential and many possibilities for the use of blockchain technology; technical communicators could even use it for authenticating instructional material. Technical writers need to understand blockchain terms and concepts and to be able to explain the technology.

STATEMENT OF OWNERSHIP, MANAGEMENT, AND CIRCULATION

INTERCOM (ISSN 0164-6206) is published eight times a year by the Society for Technical Communication, a nonprofit educational organization, as a service to the membership. Members may pay $60 for a print subscription to *INTERCOM*. The mailing address of both the publication and the publisher is 9401 Lee Highway, Suite 300, Fairfax VA 22031-1803. The publisher is Elizabeth Pohland, and the editor is Andrea Ames. The owner of the publication is the Society for Technical Communication. There were **580** copies of *INTERCOM* published in **September 2018**. The average for the preceding 12 months was **582**. The paid/requested outside-county mail subscriptions for the **September 2018** issue were **518**; the average for the preceding 12 months was **484**. Total distribution for **September 2018** was **538**. The average for the preceding 12 months was **526. 2** free copies of *INTERCOM* were distributed by mail in **September 2018** and the average number of free copies distributed during the preceding 12 months was **31**. **42** copies of *INTERCOM* were not distributed in **September 2018**, and the average number of copies not distributed during the preceding 12 months was **57**. The percent paid/requested circulation in **September 2018** was **98** percent; for the preceding 12 months, percent paid/ requested circulation was **94** percent.

Mark Your Calendar

Organization Events Across the Globe

FYI lists information about nonprofit ventures only. Please send information to *intercom@stc.org.*

1 1-5 Oct
The Human Factors in Ergonomics Society (HFES) will hold its 2018 **International Annual Meeting** 1-5 October at the Philadelphia Marriott in Philadelphia, PA.
HFES
https://www.hfes.org/
http://cms.hfes.org/Cms/media/CmsImages/2018-AM-flyer.pdf

2 4-6 Oct
The **Council for Programs in Technical and Scientific Communication (CPTSC)** annual conference will be held 4-6 October, 2018 at the Graduate Hotel in Minneapolis, MN.
CPTSC
https://cptsc.org/conference/

3 7-9 Oct
The **2018 Public Relations Society of America (PRSA) International Conference** will take place 7-9 October at the JW Marriott Hotel, Austin, TX.
PRSA
http://apps.prsa.org/Conferences/

4 24-27 Oct
The **American Translators Association (ATA)** will hold its **59th Annual Conference** 24-27 October at the New Orleans Marriott in New Orleans, LA.
ATA
https://www.atanet.org/conf/2018/

5 26-28 Oct
InterChange, the STC New England Chapter's annual technical communication conference, will take place 26-27 October at the UMass Lowell Inn and Conference Center in Lowell, MA.
InterChange
http://stcnewengland.org/interchange
admin@stcnewengland.org

6 1-3 Nov
The **American Medical Writers Association** will hold the 2018 AMWA Medical Writing & Communication Conference 1-3 November at the Renaissance DC Downtown Hotel in Washington, DC.
AMWA
conference@amwa.org
240-238-0940

7 10-14 Nov
The **Association for Information Science and Technology (ASIS&T)** will hold its 81st Annual Meeting 10-14 November at the Hyatt Regency Vancouver in Vancouver, BC, Canada.
ASIS&T
meetings@asist.org
301-495-0900

* STC-related event

Group Bonding

BY ALAN J. PORTER | *STC Senior Member*

THERE WE WERE, a group of us, standing in the cold drizzle on the edge of a windy small town airfield in the middle of Illinois, cheering like a bunch of giddy schoolchildren. We were tired, hungry, wet, and freezing, but we were happy because the helicopter engine had started up.

The helicopter in question was a bright yellow Hiller UH-12 from the early 1960s with the tail number N78OND. This was the first time the engine had been fired up in several years, and it was music to our ears.

For this was no ordinary helicopter. This particular machine achieved its moment of aviation fame when it chased a youthful Sean Connery across the hilltops of the Turkish countryside in the second James Bond movie, *From Russia With Love*. And while it's one of the group's more recent acquisitions, it is the oldest vehicle in our collection.

Several years ago I was lucky enough to be invited to do a signing for my book *JAMES BOND: The History of the Illustrated 007* at an event alongside former Bond novelist Raymond Benson. Over dinner later, he said something along the lines of "You know your Bond, and you like fixing cars and stuff. I should introduce you to some friends of mine." That introduction turned out to be an invitation to join The Ian Fleming Foundation.

The IFF is dedicated to the study and preservation of the history of Ian Fleming's literary works, the James Bond phenomenon, and their impact on popular culture. It is also a center of research for all aspects of James Bond and has an extensive archive. But the most fun part of being part of the IFF is the vehicles. We rescue and restore James Bond movie vehicles. At the time of writing, we have thirty-five vehicles in total, as well as various onscreen props and models, with seventeen of them currently on display at the "Bond In Motion" exhibit in Covent Garden, London. Those not on exhibit or loan elsewhere are held in our hanger on the edge of that remote airfield, where they are either being stored or undergoing repairs and restoration, like the helicopter.

It's amazing where these treasures have been found: cars found in barns, a stunt truck being used as a training aid at a fire station, a light plane being used for advertising, a boat converted into a bar, and filming models rotting away in garden sheds, to name a few.

While some of the IFF team who live locally look after the collection on a day-to-day basis, the rest of us gather a few times a year to help out with major projects. As a result, I've gotten to play with, and work on, some of the coolest vehicles ever to grace the movie screen. Now whenever I rewatch a Bond movie (which is frequently), I always smile when I see one of our vehicles in action, especially if it's one that's been restored to how it looked during its moment of glory.

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STC Online Courses	6
STC Summit Pre-Conference Courses (full day)	6
STC Summit Pre-Conference Courses (half day)	3
STC Annual Summit	8
Begin and complete a college-accredited course related to the Technical Communication field	8
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Published books publicly available on topics related to *Technical Communication* (5/book)	5
Presentations at conferences related to aspects of *Technical Communication* (2/presentation)	2
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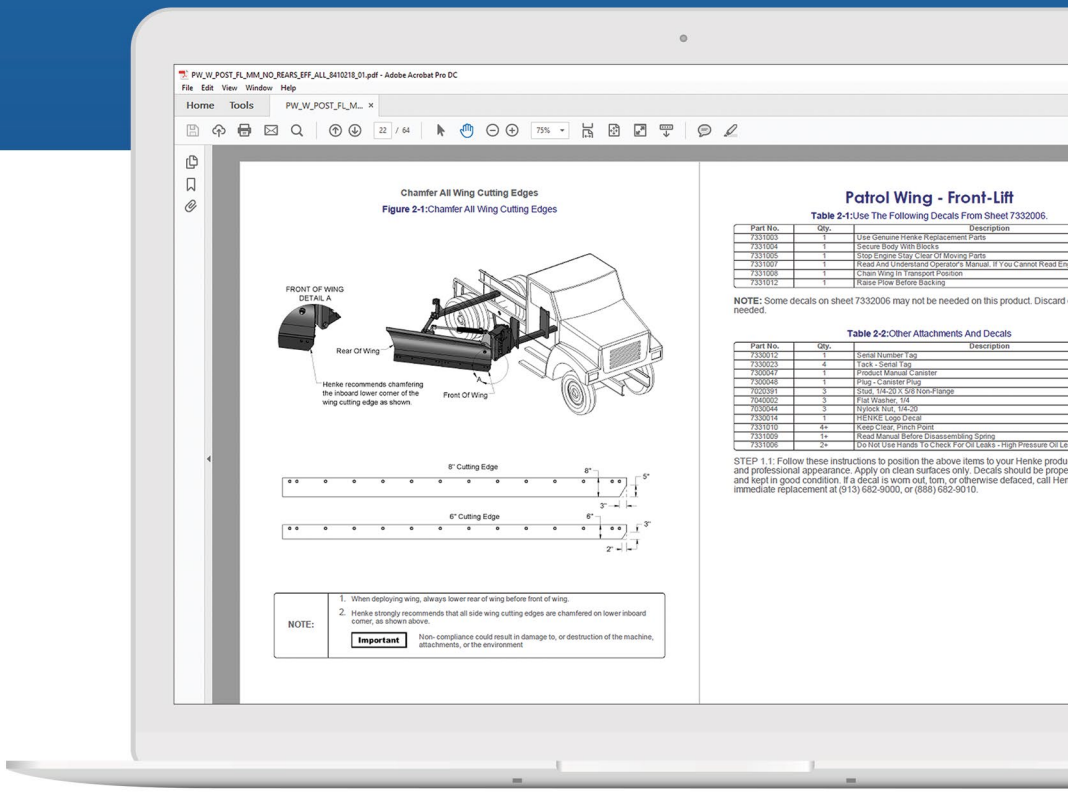
Chamfer All Wing Cutting Edges
Figure 2-1:Chamfer All Wing Cutting Edges
FRONT OF WING DETAIL A
Rear Of Wing
Front Of Wing
Henke recommends chamfering the inboard lower corner of the wing cutting edge as shown.
8" Cutting Edge
6" Cutting Edge
NOTE:
1. When deploying wing, always lower rear of wing before front of wing.
2. Henke strongly recommends that all side wing cutting edges are chamfered on lower inboard corner, as shown above.
Important
Non- compliance could result in damage to, or destruction of the machine, attachments, or the environment
Patrol Wing - Front-Lift
Table 2-1:Use The Following Decals From Sheet 7332006.
Part No. | Qty. | Description
7331003 | 1 | Use Genuine Henke Replacement Parts
7331004 | 1 | Secure Body With Blocks
7331005 | 1 | Stop Engine Stay Clear Of Moving Parts
7331007 | 1 | Read And Understand Operator's Manual. If You Cannot Read En
7331008 | 1 | Chain Wing in Transport Position
7331012 | 1 | Raise Plow Before Backing
NOTE: Some decals on sheet 7332006 may not be needed on this product. Discard needed.
Table 2-2:Other Attachments And Decals
Part No. | Qty. | Description
7330012 | 1 | Serial Number Tag
7330023 | 4 | Tack - Serial Tag
7300047 | 1 | Product Manual Canister
7300048 | 1 | Plug - Canister Plug
7020391 | 3 | Stud, 1/4-20 X 5/8 Non-Flange
7040002 | 3 | Flat Washer, 1/4
7030044 | 3 | Nylock Nut, 1/4-20
7330014 | 1 | HENKE Logo Decal
7331010 | 4+ | Keep Clear, Pinch Point
7331009 | 1+ | Read Manual Before Disassembling Spring
7331006 | 2+ | Do Not Use Hands To Check For Oil Leaks - High Pressure Oil Le
STEP 1.1: Follow these instructions to position the above items to your Henke produ and professional appearance. Apply on clean surfaces only. Decals should be prope and kept in good condition. If a decal is worn out, torn, or otherwise defaced, call Her immediate replacement at (913) 682-9000, or (888) 682-9010.

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T.J. COYLE | Technical Writer II and Environmental Compliance Officer, Henke Manufacturing

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